

# Sweet, but Sinister

There was one ingredient (worse than sugar!) I had to get out of my cupboard—and my son's life. *By Debra Ginsberg*

**M**y teenage son, Blaze, would willingly walk a mile, spend his last dollar, or step over my prostrate body to get to a Coke, Pepsi, 7-Up, A&W Root Beer, or some other soft drink. His passion is so pronounced that he'll guzzle anything carbonated and sweetened, including Dr. Brown's Cel-Ray Soda, a soft drink flavored with, yes, *celery*. But then, after the guzzling, comes the snarling, usually directed at me. "You can't tell me what to eat" or "I know what I'm doing," he'll say, as he sets off to find more soda, more cookies or candy, more of anything that contains the ingredient he craves. It's not sugar. It's an ingredient much more insidious and arguably more dastardly than sugar—and for the past couple of years, I've been a woman on a mission (Blaze might call it a crusade) to keep my son, myself, and anyone I care about from consuming it. I'm talking about high fructose corn syrup.

High fructose corn syrup has been in the news in the past few years, mostly

in connection with stories about the alarming rise in obesity and diabetes. HFCS, made from cornstarch, is much sweeter than regular granulated sugar, or sucrose (made from sugarcane or sugar beets), and it's cheaper to produce, so the food industry loves it. Although it didn't exist before the sixties, it's now the leading sweetener (along with plain corn syrup) used in this country. Nearly all soft drinks and sweet snack foods are loaded with it. And because it also prevents freezer burn and extends shelf life, it's in more processed and frozen foods than you'd imagine. In fact, U.S. consumption of HFCS increased by more than 1,000 percent from 1970 to 1990!

Yes, we're eating a lot of it—but why is that so bad? As Greg Critser notes in his book *Fat Land: How Americans Became the Fattest People in the World*, the body digests HFCS differently than sugar it does sugar. It's processed in the liver rather than in the stomach, increasing the liver's release of fat cells (triglycerides). High blood triglyceride levels increase your

risk for heart disease. And that's not all. When filmmaker Morgan Spurlock became a fat guy after eating only McDonald's fare for just one month for his documentary, *Super Size Me*, why did he become so suddenly, seriously ill? The stress of processing so much HFCS in the 32-ounce sodas and shakes probably had as much to do with damaging his liver as the high fat content of the Big Macs.

The sweetener is also thought to decrease the release of leptin, a hormone that tells the body it is full. In other words, it may be harder to get satisfied from eating foods with HFCS, a surefire way to pack on the pounds.

In fact, in a recent study of preschoolers, researchers at the Centers for Disease Control and Prevention and at the Missouri Demonstration Project, researchers found that just one to two sodas or other sweet drinks a day made kids who were at risk for weight problems twice as likely to gain a significant amount of weight within a year.

ILLUSTRATIONS BY HANOCH PIVEN



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Of course, one doesn't have to be a rocket scientist to figure out that drinking soda and eating snack cakes is bad for one's health and waistline. And I don't need maternal genius to realize that a Dr Pepper quickly turns my son into Mr. Hyde. I think HFCS is addictive—your palate gets accustomed to its sweeter-than-sugar flavor and thus prefers it.

If the nutritional hazards of HFCS don't worry you, then consider this: The corn that's used to make the sweetener is almost always genetically modified. GMO corn, among its many ecological shortcomings, is often exposed to more herbicides than regular crops are—and the risks that eating GMO foods may pose to our health are still unknown.

Fueled by my convictions, I imagined that avoiding the sweetener would be relatively easy. All I had to do was banish sodas and processed snack foods from my home (which I try to do anyway), right? Wrong.

Always a compulsive label-reader, I started scanning the ingredient list of everything I bought. Turns out that HFCS is in all sorts of unexpected products: Vlasic Sweet Gherkins,

I'd purchase one of these for my soda-addicted son as a treat).

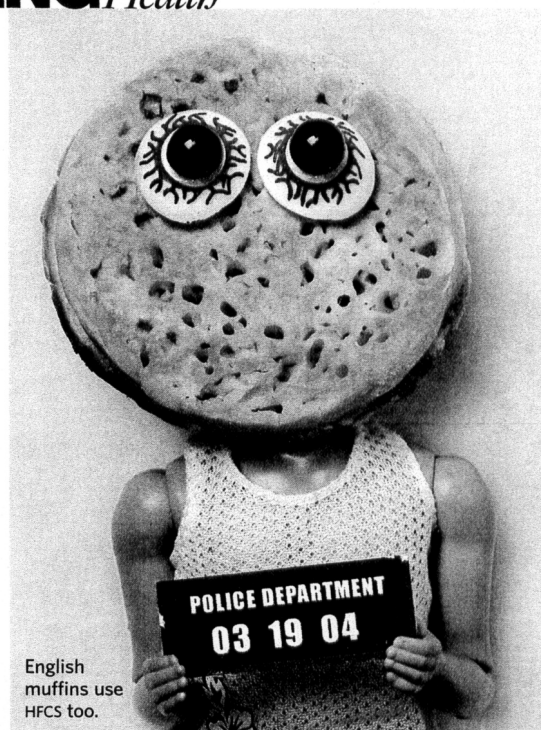
Now that I'm looking for it, I'm finding the ingredient everywhere. Ideally, I'd buy and consume only organic whole foods (remember vegetables, fruit, and whole grains?) and eliminate the possibility of HFCS sliding its syrupy way into my home. But like most people, I find it difficult to do this consistently. The best alternative is to refuse to buy foods that I know contain it and to insist that the people I care about do the same. In this way I've actually been quite successful. My endless ranting (OK, some call it nagging) has convinced almost everyone in my family, as well as close friends, to avoid the sweetener.

I never resist an opportunity to make my opinion on this topic known. I've even managed to coerce my sister's boyfriend (who's in his twenties

## It turns out that HFCS is in all sorts of unexpected places—bread, yogurt, crackers, cereal—even “natural” foods.

French's Sweet & Tangy Honey Mustard, and Heinz Ketchup. It's in any number of breakfast cereals and breads, V8 Splash Smoothies, Oroweat Extra Crisp English Muffins, various fruit-juice cocktails, crackers, and pickled beets. The most disappointing thing for me, though, was finding the additive in a few favorite snacks I'd trusted because they were “natural.” To wit: Chocolate Supreme Tofutti (a frozen tofu alternative to ice cream, for heaven's sake!), Tiger's Milk Bars (sigh), and Hansen's Natural Sodas (once in a great while

and understandably feels invincible) into kicking his three-a-day Arizona Iced Tea habit. In his case the appeal to his vanity—describing what he'll look like with 20, 30, or 40 pounds added to his waistline—was more effective than the do-it-for-your-health angle. This tactic also worked with my perpetually dieting best friend. When I delicately pointed out how many of the diet foods she eats contain HFCS, she began reading labels more scrupulously. Now she avoids many of those same food products—including a supposedly



innocent fat-free yogurt—that were actually working against all her various weight-loss efforts.

Unfortunately, I haven't been able to eliminate HFCS from my son's diet entirely. I can control what I purchase and what I bring into my home, but I can't control what he buys at school, where soda and candy machines aplenty line the cafeteria walls (don't get me started). However, my persistence has paid off in some respects. Blaze is finally beginning to understand how badly HFCS affects him. For example, he's discovered, with some prodding from me, that it's almost impossible for him to concentrate on doing his homework after drinking a lot of soda. He is also learning that what tastes so good can make him feel really bad, causing him to suffer from stomach cramps and fatigue. He has even decided to voluntarily cut down on his intake—for his after-school snack, for instance, he has substituted pistachios and homemade muffins for granola bars (many brands of these so-called health foods are packed with the sweetener). I'm edging closer to winning my personal war against HFCS. It's a small start toward what I hope will become a big change. 🍌

## The Facts About High Fructose Corn Syrup

How has it made America fatter?

Because HFCS is sweeter and cheaper than sugar, the food industry substituted it for sugar as the sweetener in soda in the eighties. Its use then became so widespread in the industry, and was so economical, that the number of new snacks soared to more than 2,000 a year (it had increased by only 250 products annually throughout the sixties and seventies). HFCS also facilitated the supersizing of fast food, because it was just as cheap to produce a 24-ounce soda as a 12-ounce size. Today the average person consumes approximately 63 pounds of HFCS a year.

What are the major health risks?

HFCS raises an alarm because we consume so much of it. High soda consumption has been implicated in rising rates of diabetes and heart disease. In a 2004 follow-up to the Harvard Nurses' Health Study, women who drank one or more sodas a day gained more weight than those who drank one or fewer a week. And their diabetes risk was more than double that of those who drank fewer than one a month.

Is it really addictive?

No studies have found sugar in any form to be addictive. Unlike sugar, however, HFCS does not stimulate the release of the appetite-regulating hormone leptin. And that may keep you reaching for more soda or food containing HFCS: One eight-year study found that when people drank an HFCS-packed soda, they didn't compensate for the additional calories by

eating less at other times of the day, as they did with sugary snacks. This could be because liquid sugar is not registered by the body in the same way as sugar in a bulkier, solid form. But a recent Harvard School of Public Health study examining the link between soda consumption and weight gain fingered HFCS as the culprit.

What's the difference between high fructose corn syrup, corn syrup, and fructose?

Like HFCS, corn syrup is man-made, but it's mostly dextrose (glucose). It's the fructose—making up about half of HFCS—that is absorbed differently from other sugars. Fructose, or fruit sugar, usually occurs naturally and is not widely used by itself as an added sugar in food products.

How much HFCS can we safely consume?

While no organization gives a limit specifically for HFCS, experts say that too much sugar is too much sugar, no matter what kind it is. No more than 10 percent of your daily calories should come from added sugars, according to the World Health Organization. If you're eating a 2,000-calorie diet, then consume no more than 200 calories of added sugar per day—which can work out to a 16.9-ounce soda or three ounces of plain M&Ms. But since sugar (often in the form of HFCS) is added to so many packaged foods, you don't have to eat any sugary snacks to reach your limit. A good rule of thumb: If HFCS is listed as the first or second ingredient, consider buying something else.

—Amy Palanjan



## GUIDE TO NATURAL SWEETENERS

"Natural sweeteners" may be defined as products sweet foods which the nutrients have not been removed, or may even be more concentrated due to boiling down and evaporation.

- ❖ **Raw Honey:** Honey that has not been heated over 117 degrees is loaded with amylases, enzymes that digest carbohydrates, as well as all the nutrients found in plant pollens. This makes it an ideal sweetener for porridge and toast, as the amylases in raw honey help digest grains. Glucose tolerance tests indicate that, for most people, honey does not upset blood sugar levels as severely as does refined sugar. Buy honey labeled "raw" and use it in desserts that do not require heating. Raw honey should not be given to infants as they lack sufficient stomach acid to deactivate bacteria spores.
- ❖ **Maple Syrup:** The concentrated sap of huge deciduous trees, maple syrup is rich in trace minerals, brought up from below ground by the tree's deep roots. It imparts a wonderful flavor to cream-based desserts and may be used in baked goods, such as muffins and pancakes. Unfortunately, formaldehyde is used in the production of most commercial maple syrup. See Sources for maple syrup that is formaldehyde free.
- ❖ **Rapadura:** Rapadura is the commercial name for is dehydrated cane sugar juice, which the people of India have used for thousands of years. It is rich in minerals, particularly silica. Rapadura has a wonderful flavor and closely mimics sugar in chemical properties. It gives the best results for cookies and cakes but be careful not to overdo—in large amounts Rapadura can upset the body chemistry just as much as sugar. (See Sources.)
- ❖ **Stevia Powder:** A sweet powder made from a South American herb, stevia can be used by those who are sensitive even to natural sweeteners. A little goes a very long way—a pinch of stevia powder will sweeten as effectively as a spoonful of sugar. As it does not add bulk, it is difficult to use successfully in baked goods; but stevia powder is a good sweetener for salad dressings, smoothies, whipped cream and pie crusts.
- ❖ **Date Sugar:** Made from nutritious dehydrated dates, it does not dissolve easily and is therefore unsuitable for many desserts. Its high tryptophan content makes it a good sweetener for hyperactive children, as this amino acid has a calming effect. Date sugar is delicious on porridge.

- ❖ **Molasses:** A "waste" product from the production of refined sugar, molasses has a strong taste and moderate sweetness. If extracted from sugar cane grown in well fertilized soils, it will contain many minerals, especially iron, calcium, zinc, copper and chromium.
- ❖ **Malted Grain Syrups:** Made with malted grains, usually barley, these syrups have been used for thousands of years, especially in the Orient. Sprouted grains are kiln-dried and the rootlets removed. The grains are then ground up, dipped briefly in an acid solution and heated with water to form malt syrup. Malt syrup is about 65 percent maltose, a disaccharide composed of two glucose molecules. (Sucrose is a disaccharide, composed of glucose and fructose.) Malted syrups contain small amounts of nutrients; but their real value is in the fact that they contain little fructose, which in large amounts is far more harmful than glucose.
- ❖ **Sorghum Syrup:** A sweetener once popular in the Southern United States, sorghum syrup is made from sweet sorghum, a grain related to millet that grows on woody stalks to a height of 15 feet. The syrup is made by boiling the sorghum sap. It takes 8 to 12 gallons of sap to make one gallon of the syrup. Sorghum syrup contains B vitamins and minerals like iron, calcium and phosphorus. It can be used in place of maple syrup.
- ❖ **Naturally Sweetened Jams:** Look for jams sweetened with dehydrated sugar cane juice rather than fructose or high fructose corn syrup.

The following sweeteners are used in many so-called health food products, but should be avoided.

- ❖ **Fructose and High Fructose Corn Syrup:** These are highly refined products composed mostly of fructose. It is the fructose, not the glucose, moiety of sucrose that causes deleterious effects, especially in growing children.
- ❖ **Concentrated Fruit Juice:** Fruit juices that have been boiled down are composed largely of fructose.
- ❖ **"Raw," "Natural," Turbinado and Sucanat Sugars and Florida Crystals:** These are all refined sugars from which the nutrients have been removed. Small amounts of molasses may be added back to give a light brown color.